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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,693	11/15/2001	James D. Thornsberry	2334-200	7177

7590 04/28/2003

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EXAMINER

CHANG, VICTOR S

ART UNIT PAPER NUMBER

1771

DATE MAILED: 04/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	09/987,693		THORNSBERRY ET AL.	
	Examiner		Art Unit	
	Victor S Chang		1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

- Status**
- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

- Disposition of Claims**
- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 2-13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

- Application Papers**
- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

- Priority under 35 U.S.C. §§ 119 and 120**
- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

- Attachment(s)**
- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-13, drawn to a laminated foam board, classified in class 428, subclass 304.4.
 - II. Claims 14-19, drawn to a method of making a closed-cell foam board, classified in class 156, subclass 60+.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product as claimed can be made by another and materially different process such as foamed boards with adhesive layers between foam core and facers.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Warren Burnam on 4/16/2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-13. Affirmation of this election must be made by applicant in replying to this Office action.

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Claims 14-19 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

6. Claims 1-13 are objected to because of the following informalities:

In claim 1, line 4, the Examiner suggests change "using" to --from--.

In claims 2-13, line 1 of each claim, "apparatus" should be changed to --article--, i.e., the article in claim 1 is clearly not an "apparatus".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The scope of the structure and/or materials of facers

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are critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

More particularly, claims 1-13 pertain to foam boards with "facers" on each outer surface. However, the scope of the structure and/or materials of "facers", is not included in the claims, i.e., they give no notice as to what type of the facers might infringe the claimed "facers". In particular, it is noted that the Specification only discloses experimental results on GRF facer and coated glass (Table 1), which hardly represents various other facer materials, such as paper, metal foil, and plastic film, etc. The absence of such genus of "facer" structure and/or materials in the independent claims render the claimed invention in excess of its provided enablement, i.e, these functional recitations are too broad since they appear to read upon materials that could not possibly be used form the contemplated genus of articles.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicants' admitted prior art in view of DeGuisseppi (US 4335218).

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In the Specification, Applicants appear to have admitted that cellular organic plastic foams used for thermal insulation are well known in the art. Such foams can be made with urethane linkages, or made with a combination of both isocyanurate linkages and urethane linkages, etc. (page 1, lines 13-18). It is known that facers are used to form laminated foam board (page 1, line 21 to page 2, line 9; and page 4, lines 24-25). Further, it is known art that pentane is used as a blowing agent (page 4, lines 18-21). Finally, Applicants provided a long list of prior references of thermosetting foams (page 2, lines 14-28). It is noted that Applicants' admitted prior art in the Specification is silent about the thermosetting foams having a closed-cell foam structure. However, the Examiner notes that Applicants' prior art references are replete with examples of thermal insulation boards formed of thermosetting foams with closed-cell foams. For example, US 3558531 teaches a process for forming closed-cell rigid polyurethane foams (Abstract).

For claims 1-13, Applicants' admitted prior art lacks an express teaching of using a mixture of the methyl esters of glutaric, succinic, and adipic acid in the foaming formulation to promote the bonding strength between the facers and the foam core. However, DeGuisseppi's patent teaches a process to form an improved adhesion between laminated skin (i.e., facer) and polyisocyanurate foam core by incorporating a dipolar aprotic organic solvent into the foam core formulation in an amount from about 1 wt% to about 10 wt% based on total weight of the foam forming mixture (Abstract and column 8, lines 6-9). DeGuisseppi also teaches that the "dipolar aprotic organic solvent" is a solvent which cannot donate a suitably labile hydrogen atom or atoms to form

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strong hydrogen bonds with an appropriate species (or to react with a polyisocyanate) (column 2, lines 34-39), and it clearly inherently encompasses the mixture of the methyl esters of glutaric, succinic, and adipic acid of the instant claimed invention. As such, it would have been obvious to one of ordinary skill in the art to include a small amount of the low cost mixture of the methyl esters of glutaric, succinic, and adipic acid in polyisocyanurate foam formulation of Applicants' admitted prior art, as taught by DeGuisseppi, motivated by the desire to obtain improved adhesion between the facers and the foam core.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Victor S Chang whose telephone number is 703-605-4296. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel H Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

VSC
April 23, 2003

DANIEL ZIRKER
PRIMARY EXAMINER
GROUP 1300-

1700

Daniel Zirker